

Application S/N 10/631,233
Amendment Dated: January 26, 2006
Response to Office Action dated: September 8, 2005

CS22875JI023

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) An antenna, comprising:

a PIFA for wireless operation within at least one frequency band; and

a parasitic element positioned to be operatively coupled to the PIFA, wherein the parasitic element is ohmically isolated from ground, and wherein RF energy is radiantly coupled between the parasitic element and the PIFA, and the parasitic element is configured and positioned so as to further induce wireless operation of the PIFA within at least one additional frequency band;

wherein the PIFA is mounted above a ground plane, the PIFA having a first side facing a plane containing the ground plane, and wherein the parasitic element is located above a second side of the PIFA that is opposite the first side.

2. (previously presented) The antenna of claim 1, wherein the parasitic element comprises three ohmically connected arms that join at substantially right angles and that radiantly couple to at least three arms of the PIFA.

3. (previously presented) The antenna of claim 1, wherein the parasitic element comprises three ohmically connected arms that are arranged in a shape that generally conforms to the shape of the PIFA.

Application S/N 10/631,233
Amendment Dated: January 26, 2006
Response to Office Action dated: September 8, 2005

CS22875JI023

4. (original) The antenna of claim 1, wherein the parasitic element comprises a meandering section.

5. (previously presented) The antenna of claim 1, wherein the parasitic element conforms to a surface that is above the PIFA.

6. (previously presented) The antenna of claim 5, wherein the parasitic element is mounted on the surface, wherein the surface is between the PIFA and the parasitic element, the surface comprises at least a portion of a case of a wireless communications device.

7. (currently amended) A parasitic element for use with a PIFA antenna that is for wireless operation within at least one frequency band, the parasitic element comprising:

at least two conductors arranged so as to radiantly couple RF energy between the parasitic element and the PIFA antenna,

wherein the parasitic element is configured and positioned relative to the PIFA antenna so as to further induce wireless operation of the PIFA antenna within at least one additional frequency band and wherein the parasitic element is ohmically isolated from ground;

wherein the parasitic element conforms to a surface that is above the PIFA and the parasitic element is mounted on the surface, wherein the surface is between the

Application S/N 10/631,233
Amendment Dated: January 26, 2006
Response to Office Action dated: September 8, 2005

CS22875JI023

PIFA and the parasitic element, the surface comprises at least a portion of a case of a wireless communications device.

8. (currently amended) A method comprising:

parasitically inducing a radiation characteristic of a PIFA antenna, that wirelessly operates within at least one frequency band, resulting in wireless operation thereof within at least one additional frequency band by radiantly coupling RF energy from the PIFA antenna to a parasitic element that is ohmically isolated from ground;

wherein the parasitically inducing comprises positioning the parasitic element so as to be operatively coupled to the PIFA antenna so as to induce the radiant coupling of RF energy between the PIFA antenna and the parasitic element, wherein the positioning contributes to the parasitically inducing and wherein the parasitic element comprises a conductor ohmically isolated from ground;

wherein the parasitic element conforms to a surface that is above the PIFA antenna and the parasitic element is mounted on the surface and the surface comprises at least a portion of a case of a wireless communications device.

9. (canceled)

10. (canceled)

Application S/N 10/631,233
Amendment Dated: January 26, 2006
Response to Office Action dated: September 8, 2005

CS22875JI023

11. (currently amended) The method according to claim 9 8, wherein the parasitic element comprises three ohmically connected arms that are arranged in a shape that generally conforms to the shape of the PIFA antenna.

12. (currently amended) The method according to claim 9 8, wherein the parasitic element comprises a meandering section so as to further induce radiation characteristics of the PIFA antenna in an additional plurality of bands.

13. (canceled)

14. (canceled)

Application S/N 10/631,233
Amendment Dated: January 26, 2006
Response to Office Action dated: September 8, 2005

CS22875JI023

15. (currently amended) A wireless communications device, comprising:
at least one of a receiver for wirelessly receiving transmitted signals and a transmitter for wirelessly transmitting signals;
a PIFA antenna, electrically coupled to the at least one of a receiver and a transmitter, for wireless operation within at least one frequency band; and
a parasitic element, positioned so as to be operatively coupled to the PIFA antenna, for radiantly coupling RF energy between the parasitic element and the PIFA antenna, the parasitic element being configured and positioned so as to further induce radiation of the PIFA antenna within at least one additional frequency band, wherein the parasitic element is ohmically isolated from ground;
wherein the parasitic element conforms to a surface that is above the PIFA and the surface comprises at least a portion of a case of the wireless communications device.

16. (previously presented) The wireless communications device of claim 15, wherein the parasitic element comprises three ohmically connected arms that are arranged in a shape that generally conforms to the shape of the PIFA antenna.

17. (canceled)

18. (canceled)

19. (canceled)

Application S/N 10/631,233
Amendment Dated: January 26, 2006
Response to Office Action dated: September 8, 2005

CS22875JI023

20. (canceled)

21. (previously presented) The antenna according to claim 6, wherein the PIFA is in contact with a first side of the surface and the parasitic element is in contact with an opposite side of the surface, the opposite side being opposite the first side.